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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/584,745	07/10/2006	Ursula Ziegler	05587-00408-US	3493

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EXAMINER	
FREEMAN, JOHN D	

ART UNIT	PAPER NUMBER
1794	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/584,745	ZIEGLER ET AL.	
	Examiner	Art Unit	
	John Freeman	1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 April 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2-17,19,21 and 22* is/are pending in the application.

4a) Of the above claim(s) *15-17* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2-14,19,21 and 22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claim 4 is objected to because of the following informalities: Applicant should delete the extra "1" after "claim 21" for proper dependency. Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 2-5, 13-14, 19, 21, and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Pfleger (US 5,792,532).

4. Regarding claims 2-3, 13-14, and 21-22:

5. Pfleger discloses polymer tubing (col 1 ln 5-11). One embodiment comprises an outer layer of polyamide elastomer and an inner layer of polyoxymethylene (POM) copolymer (claim 30). Pfleger teaches the tubing can be made by coextrusion or blow molding (col 1 ln 15-22).

6. The present claims are written in a product-by-process format. The examiner takes the position that the final composite structure of Pfleger's tubing would be indistinguishable from the final product of the presently claimed invention, as both describe a layer of POM adhesively bonded to a polyamide elastomer.

7. With regard to the presently claimed tensile bond strength limits, the examiner takes the position that Pfleger's composite tubing inherently satisfies Applicant's requirements given that the composite has the same structure as claimed.

8. Regarding claims 4-5:

9. The layers comprise modifiers such as stabilizers, plasticizers, pigments, impact modifiers, and conductivity modifiers (col 4 ln 56-60).

10. Regarding claim 19:

11. Tubing is a connector.

12. Claims 2-7, 10, 13-14, 19, 21, and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Ziegler et al. (WO 00/20204).

13. All references referred to herein refer to the included machine translation of WO '204.

14. Regarding claims 2-3, 10, 13-14, and 21:

15. Ziegler et al. (hereafter Ziegler) disclose a composite comprising polyacetal and at least one styrene-olefin elastomer modified with non-olefinic thermoplastic material (p1, lines 1-4). The non-olefinic material comprises polyetheramide elastomers (p3, last paragraph-p4, first paragraph). The polyacetal includes copolymers of POM (p3, paragraph 5).

16. Ziegler makes the POM molded article before coating it, or molding onto it, with the styrene-olefin elastomer containing the polyamide elastomer (p2, paragraphs 6-11). Prior to molding the elastomer onto the POM article, it is heated anywhere from 80˚C to just below its melting point (p2, paragraph 11). Temperatures suitable for the elastomer cover at least 200-270˚C (p3, paragraph 2). Regardless, the present claims are written in a product-by-process format. The examiner takes the position that the final composite structure of Ziegler's tubing would be indistinguishable from the final product of the presently claimed invention, as both describe a layer of POM adhesively bonded to a polyamide elastomer.

17. The bond strength between the two materials is at least 0.5 N/mm^2 (p3, paragraph 4). The examiner takes the position that Ziegler's composite inherently satisfies the requirements of present claim 2 given that the composite has the same structure as claimed. Measurements were made according to the ISO 527 tensile test (p4, paragraph 8).

18. Regarding claim 4:

19. The layers comprise modifiers such as stabilizers, nucleating agents, mold-release agents, lubricants, fillers, reinforcing materials, pigments, carbon black (soot), light stabilizers, flame retardants, antistatic agents, plasticizers, and optical brighteners (p4, lines 8-11).

20. Regarding claims 5-7:

21. The POM can be modified with thermoplastic polyurethane, methyl methacrylate-butadiene-styrene core-shell elastomer, methyl methacrylate-acrylate core-shell elastomer, polycarbonate, styrene-

acrylonitrile copolymer, or acrylate-styrene-acrylonitrile copolymer (p3, paragraph 10). The examples of modified POM provide weight percentages within the presently claimed ranges (p4, paragraph 9+).

22. Regarding claim 19:

23. The composite can be used as a connector or non-slip element (p4, paragraph 3).

24. Regarding claim 22:

25. A specific embodiment preheats the POM to 155˚C, an elastomer temperature of 200-260˚C, and uses a mold temperature between 30-80˚C (p4, paragraph 6).

Claim Rejections - 35 USC § 103

26. Claims 8-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pfleger (US 5,792,532) in view of Tanaka et al. (US 4,376,856).

27. Pfleger disclose a composite comprising a polyacetal and polyetheramide elastomers.

28. Pfleger is silent with regard to the composition of the polyetheramide elastomers.

29. Regarding claims 9-12:

30. Elastomers having the presently claimed structures were well-known in the art. For example, Tanaka et al. (hereafter Tanaka) disclose polyetheramide elastomers containing (A) aminocarboxylic acid, (B) polyoxyalkylene glycol, and (C) dicarboxylic acid (col 1 ln 60-68). Such a polyetheramide would comprise repeating units corresponding to the presently claimed (I) and (III). The aminocarboxylic acids include aliphatic compounds such as 11-aminoundecanoic acid, which forms nylon-11 (col 2 ln 15-27). (B) can be polyethylene glycol, polypropylene glycol, or polytetramethylene glycol (col 2 ln 28-36).

31. Tanaka discloses polyetheramides have excellent properties such as impact resistance and elasticity (col 1 lines 52-55).

32. At the time of the invention, it would have been obvious to one of ordinary skill in the art to use conventional polyetheramide elastomers, e.g. as taught by Tanaka, as the polyetheramide elastomer in the composite taught by Pfleger to arrive at a composite having desirable qualities such as excellent impact resistance and elasticity.

33. Regarding claim 8:

34. Given the polyetheramide elastomer taught by Tanaka is the same that presently claimed, the examiner takes the position that the elastomer of Tanaka intrinsically has a hardness within the presently claimed range.

35. Claims 8-9, and 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ziegler et al. (WO 00/20204) in view of Tanaka et al. (US 4,376,856).

36. Ziegler discloses a composite comprising a polyacetal and polyetheramide elastomers.

37. Ziegler is silent with regard to the composition of the polyetheramide elastomers.

38. Regarding claims 9, and 11-12:

39. Elastomers having the presently claimed structures were well-known in the art. For example, Tanaka et al. (hereafter Tanaka) disclose polyetheramide elastomers containing (A) aminocarboxylic acid, (B) polyoxyalkylene glycol, and (C) dicarboxylic acid (col 1 ln 60-68). Such a polyetheramide would comprise repeating units corresponding to the presently claimed (I) and (III). The aminocarboxylic acids include aliphatic compounds such as 11-aminoundecanoic acid, which forms nylon-11 (col 2 ln 15-27). (B) can be polyethylene glycol, polypropylene glycol, or polytetramethylene glycol (col 2 ln 28-36).

40. Tanaka discloses polyetheramides have excellent properties such as impact resistance and elasticity (col 1 lines 52-55).

41. At the time of the invention, it would have been obvious to one of ordinary skill in the art to use conventional polyetheramide elastomers, e.g. as taught by Tanaka, as the polyetheramide elastomer in the composite taught by Ziegler to arrive at a composite having desirable qualities such as excellent impact resistance and elasticity.

42. Regarding claim 8:

43. Given the polyetheramide elastomer taught by Tanaka is the same that presently claimed, the examiner takes the position that the elastomer of Tanaka intrinsically has a hardness within the presently claimed range.

Claim Rejections - 35 USC § 112

44. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

45. Claims 5 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

46. Claim 5 recites “wherein the polyacetal comprises at least one modifier." The scope of the term “modifier” is unclear: it is not clear what the term refers to, or what compounds are encompassed by the term.

Response to Arguments

47. Applicant's arguments filed 28 April 2009 have been fully considered but they are not persuasive.

48. The examiner appreciates Applicant’s amendments to the Abstract, which overcome the previous objection.

49. Applicant submits the process features of claim 21 improve adhesion between POM and TPA-E. However, the examiner notes the present claims are written in a product-by-process format. As such, barring evidence to the contrary, the examiner maintains Pfleger and Pfleger in view of Tanaka disclose a product that would be indistinguishable from the presently claimed product. Also, Ziegler discloses the process steps presently claimed, and therefore results in the same product.

50. Furthermore, note “the arguments of counsel cannot take the place of evidence in the record”, *In re Schulze*, 346 F.2d 600, 602, 145 USPQ 716, 718 (CCPA 1965). It is the examiner’s position that the arguments provided by the Applicant regarding adhesion between POM and TPA-E must be supported by a declaration or affidavit. As set forth in MPEP 716.02(g), “the reason for requiring evidence in a declaration or affidavit form is to obtain the assurances that any statements or representations made are correct, as provided by 35 U.S.C. 24 and 18 U.S.C. 1001”.

51. Applicant appears to agree with the examiner that “adhesively" and “cohesively” are coextensive terms. The examiner reads the terms as such.

52. Applicant submits “modifier” has a well recognized meaning to one of ordinary skill in the art. The examiner respectfully disagrees. While the examiner agrees there are additives or components known by one of ordinary skill that can be considered “modifiers”, what is completely encompassed by this term is not clear. Essentially any material that affects any property of the polyacetal may be considered a “modifier”, not just those examples disclosed by the present specification, and thus the scope of the claim is not clear to one of ordinary skill in the art.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Freeman whose telephone number is (571)270-3469. The examiner can normally be reached on Monday-Friday 7:30-5:00PM EST (First Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Callie Shosho can be reached on (571)272-1123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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